

Study on the Effect of Popular Culture on Digital Game Motivation

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Abstract

In parallel with the constantly developing and changing technology, there is an increase in the consumption of digital games and a change in the way of use. About 30 million people in Turkey are interested in digital games and spend their free time in this way. Considering the Z generation, a significant portion of these users are high school and university students. There are even high school and university students who continue their professional careers as e-athletes. Determining why the Z generation prefers digital games and sports as a career or an important tool to evaluate their spare time can contribute to the e-sports literature. In this context, the aim of the research is to understand the motivations of generation Z to play digital games and to contribute to the e-sports literature. In the research, 335 digital game



users were reached on the internet with the convenience sampling technique. In obtaining the data; Demir and Hazar (2018); Digital game playing motivation scale developed by the company was used. In the analysis of the data, the scale dimensions were compared according to the demographic characteristics of the sample (gender, education, age and income, daily and annual playing times) using variance analysis and significant differences were determined. As a result of the analysis, it has been determined that men have a higher motivation to play digital games than women, those with a high school education level are more motivated to play digital games than those with a university education level, and there is no significant difference in the motivation of playing digital games in the age group from other age groups. As a result, the motivations of the Z generation to play digital games were examined and suggestions were made to the e-sports industry and literature as a result of the differences in demographic characteristics. However, much more can be done to help us understand the underlying psychological processes involved in the motivation of young players, particularly in terms of passion and flow experiences.

Keywords: Generation Z, Gaming, Digital gaming, Motivation

1. Introduction

Culture can be defined as people's efforts to shape nature through the activities they engage in within the framework of civilization. The most crucial characteristics that distinguish societies are tangible values, which are components of capitalist culture in addition to the customs and traditions that make up the concept of spiritual culture. On the other hand, popular culture refers to the culture generated by everyday life (Oktay et al., 2002). Popular culture is the power that significantly interferes with the lives of individuals by dominating daily life and forcing individuals to base their lives solely on consumption habits (Coşgun, 2012).

When we look at both the world and our own country (Turkey), we can see that people have a strong desire to consume. People use consumption to not only meet their basic needs, but also for entertainment, leisure activities, socializing, and so on.

The increased demand for consumption has resulted in the emergence of new industries. "Digital platforms" is one of these sectors that stands out. These platforms, which have almost become the most popular products today, cover many topics. Examples include social media platforms, series/movie platforms, sports broadcasting platforms, and live broadcasting platforms such as twitch, YouTube, and others. There are numerous digital platforms available. Among these platforms, the "digital game" platforms are among the most popular platforms for leisure activities today. Computer and video games have become increasingly popular in recent years, particularly as leisure activities (Kirriemuir & McFarlane, 2004).

Turkey is one of the countries where digital games are most popular, ranking third in the world. In Turkey, 30 million people play digital games, and the industry is estimated to be worth 600 million dollars. In this context, the concept of digital games, which is already popular in Turkey, is expected to gain even more traction in the future (Turgut & Yaşar, 2019).



This prevalence is understandable given the increase in the number of players, particularly with the popularity of online games and the professionalization of games based on e-sports. Tournaments in these games attract participants from all over the world. While parents used to criticize their children for spending too much time playing video games, playing digital games has now become an income-generating activity (Özsoy & Sepetci, 2019).

Sports are also prominent in popular culture. Sports, as one of the best leisure activities, are also included in the popular culture industry. In addition to the well-known sports branches, "E-sports" has become a sports branch and is quickly becoming one of the popular culture's most consumed products.

In this context, it is believed that digital games, which are commonly used as recreational activities, can be an effective sports tool when used correctly. This study aims to investigate the relationship between popular culture and digital sports based on all of these factors (Esentaş et al., 2018).

1.1 Literature Review

Each generation has its own unique set of characteristics, value judgments, attitudes, strengths, and weaknesses. Also, when expressing any generation, it is important to remember that stereotypes exist. However, when defining generations as members of a group, it is not correct to state that everyone in that generation possesses every characteristic of it (Lower, 2008).

When the history of the word "culture" is investigated, it can be discovered that it derives from the word "cultura". "Cultura" is derived from the Latin word "colere". This term means to plow, sow, and reap (Guvenc, 1996). In Turkish, it means "crop" (Püsküllüolu, 2004).

There are numerous definitions of culture in the literature, which is also of interest to various disciplines such as sociology, psychology, philosophy, and communication. As a result, it is impossible to discuss a precise definition of culture. In one of their studies, American anthropologists Kroeber and Kluckhon (1952) mentioned 164 different definitions of the concept of culture (Duzcan, 2020).

The term "popular" has two primary meanings. First, it is defined as an element that everyone enjoys and consumes. The second definition includes belonging to the general public (Özbek, 2002).

On the other hand, it is a challenging concept to define precisely because popular culture encompasses a variety of concepts. In terms of society, it is closely related to concepts such as sports, music, television, cinema, fashion, and even fast food. The relationships that researchers and critics have drawn between "leisure" activities and popular culture stand out when examining this concept. Consumers associate leisure time with activities that provide entertainment. Leisure activity was defined by Aristotle as "the state of being involved in an activity without any purpose, just to do it" (Kraus, 1971).

Digital sports games can be defined as digital games based on individual performances or encounters, within the framework of specific rules in sports branches, in which the situation



of winning or losing is experienced at the end. Digital sports games can be played as a team or individually, and the content varies (Cihan & Ilgar, 2019).

Briefly, digital games are computer and video games that are played in virtual spaces, such as console games, PC games, and online games. According to their thematic and technological features, these digital games are classified as network, action, adventure, motorsports and racing, role-playing, animation games, sports, and strategy games (Esentaş et al., 2018).

After the 1950s, popular culture began to develop and become a field of study in its own right in the United States and Western Europe. Studies on popular culture have been conducted in Turkey since the 1990s. This area, which draws more and more attention every day, has evolved into one of the most popular fields of study today (Özkan, 2006).

In many disciplines, digital game-based learning (DGBL) has been recognized as an effective learning strategy for increasing students' willingness and interest. As a result, working on ways to design a DGBL system to reduce anxiety has become valuable (Huang et al., 2014).

As educational technologies advance quickly, game-based learning is emerging as a field with significant potential and receiving more attention from researchers and educators. One example is the use of digital games to teach vocabulary to language learners (Zou et al., 2019).

Obsessive passion (OP) is characterized by an inner pressure that compels a person to engage in passionate activities and causes conflicts with other aspects of life. As a result, the activity is subtly internalized into one's identity. This form of passion is associated with negative consequences both during and after the activity. The self-determination theory (SDT) underpins internalization processes (Deci & Ryan, 1985).

Players with high entertainment motivation can form stronger bonds with a game's character and become engrossed in the plot, gaining fantasy and narrative gratifications and, as a result, an appreciation for the experience. Players with low eudaimonic entertainment motivation, on the other hand, may only treat the same character as a pawn in a pleasurable competition against a computer or other players (Possler et al., 2020).

2. Method

2.1 The Purpose of the Study

The purpose of this study is to understand and analyze the reasons why members of generation Z play digital games on digital game platforms that are becoming widely popular in recent years, as well as the positive and negative effects of popular culture on their motivation to play digital games.

2.2 The Population and Sample of the Study

The study's population was 335 people who were interested in Digital Games.

The convenience sampling method was used in this study, which is one of the sampling methods used when the probability is unknown due to factors such as time, cost, and



accessibility.

2.3 Data Collection

The Digital Game Playing Motivation Scale (DGPMS), developed by Demir and Hazar (2018), consists of 19 items. DGPMS items are gathered under three sub-dimensions: Success and Recovery, Curiosity and Social Acceptance, and Uncertainty in Game Request. The "Success and Recovery" subdimension includes the first 5 items of the scale, the "Curiosity and Social Acceptance" subdimension includes the items between 6-14, and the "Uncertainty in Game Request" subdimension includes the last 5 items of the scale.

Since the "Uncertainty in Game Request" sub-dimension consists of negative statements, it is reverse-coded. The scale is a 5-point Likert-type scale, with the answer choices of "Strongly Disagree", "Disagree", "Undecided", "Agree", and "Strongly Agree".

Success and Recovery: It represents internal motivation sources such as excitement, curiosity, happiness, and ambition in digital game playing.

Curiosity and Social Acceptance: It represents extrinsic motivation sources such as the desire to win prize-trophy-armor, and the attractiveness of sound and visual effects in digital game playing.

Uncertainty in Game Request: It represents playing digital games without being able to make a connection between the causes and consequences of playing digital games.

2.4 Data Analysis

SPSS 22.0 program was used to analyze the data. Percentage (%) and frequency analyzes were used to interpret the information about the participants.

Arithmetic mean (x) and standard deviation (SD) values were used to interpret digital gaming motivation in relation to demographic characteristics.

"Statistical Package for Social Sciences" (SPSS) Version 23 statistical program was used to analyze the study data statistically. Since the skewness and kurtosis values were found to be in the range of -2 to +2 in the analysis of the data, parametric tests were also applied. In the study's statistical analysis, the evaluated variables were defined with arithmetic mean (\bar{x}) , standard deviation (ss), number, and percentage values. In the study, the T-test was used to compare the data according to gender, and the One Way Anova test was used to compare the data according to age, education, occupation, and monthly income. Significance was accepted as p < 0.05.

3. Results

3.1 Demographic Findings

199 male (59.4%) and 136 female (40.6%) students participated in the study. In addition, since the study was conducted on university students, 237 participants (70.7%) were between the ages of 20-25. On the other hand, 11 participants (3.3%) were aged 45 and over.



Eskişehir Technical University was considered as the application area of the study and the students of this university as the focus group, so 289 participants (86.3%) were Associate/Undergraduate students and 21 participants (6.3%) were Postgraduate students (Master's/PhD).

Since this study was conducted on university students, the monthly income of 183 participants (54.6%), that is, more than half of them, was 1500 TL or less. On the other hand, the monthly income of 22 participants (6.6%) was between 3501-4500 TL.

3.2 Scale Findings

Table 1. T-test results by gender

Scale	Gender	N	X	SS	Sd	t	p
Cooperation Attitude	Female	136	3.148	0.867	255.729	-4.521	0.000*
	Male	196	3.557	0.727	233.129		
Communication skills	Female	136	3.548	0.940	250.092	-3.676	0.000*
	Male	196	3.906	0.769	250.982		
Uncertainty in Game Request	Female	136	3.175	1.004	222	2.020	0.004
	Male	196	2.828	1.097	333	2.939	0.004

Table 1 shows the findings of the T-test conducted between the DGPMS results of the participants and their genders. As a result of the analysis, it was determined that gender had a significant relationship with the "Success and Recovery" sub-dimension, and the "Curiosity and Social Acceptance" sub-dimension (p < 0.05). Accordingly, in the "Success and Recovery" sub-dimension, male students' motivation to play digital games was higher than that of female students (Z = -4.521; p = .00 < .05).



Table 2. Test results by age

Scale	Age	N	X	SS	Sd	t	p
Success and Recovery	14-19	52	3.365	0.760			
	20-25	237	3.394	0.800			0.205
	26-35	35	3.571	0.902			0.385
	36-45	11	2.909	0.887			
Curiosity and Social Acceptance	14-19	52	3.724	0.765			
	20-25	237	3.780	0.857			0.460
	26-35	35	3.869	0.939			0.460
	36-45	11	3.161	0.969			
Uncertainty in Game Request	14-19	52	2.965	1.080			
	20-25	237	2.985	1.073			0.065
	26-35	35	2.885	1.101			0.965
	36-45	11	2.969	1.074			

Table 2 shows the relationship between the ages of the participants and their motivation to play digital games examined with the ANOVA test. Accordingly, no significant relationship was found between the ages of the participants and their motivation to play digital games (p < .05).



Table 3. Test results by education level

Scale	Education Level	N	X	SS	Sd	t	p
Success and Recovery	High School	25	3.760	0.5944			0.536
	Associate/Undergraduate	235	3.356	0.8189			1.00
	Postgraduate	21	3.438	0.85234			1.00
Curiosity and Social Acceptance	High School	25	4.115	0.1502			0.194
	Associate/Undergraduate	235	3.738	0.0510			1.00
	Postgraduate	21	3.645	0.1769			1.00
Uncertainty in Game Request	High School	25	2.440	1.0551			
	Associate/Undergraduate	235	3.0111	1.0762		-0.5710	0.32
	Postgraduate	21	3.019	0.91193			

Table 3 shows the findings of the ANOVA test conducted between the participants' DGPMS results and their education levels. As a result of the analysis, it was determined that gender did not have a significant relationship with the "Success and Recovery" sub-dimension, and the "Curiosity and Social Acceptance" sub-dimension (p < 0.05). On the other hand, a significant difference was found in the "Uncertainty in Game Request" of high school and associate/undergraduate students. According to this, the levels of "Uncertainty in Game Request" of high school and associate/undergraduate students were higher than those at other educational levels (Z = -0.5710; p = .00 < .05).



Table 4. Test results by profession

Scale	Profession	N	X	SS	Sd	t	p
Success and Recovery	Student	276	3.404	0.7071			
	Employee	3	3.333	0.7888			
	Officer	2	3.270	1.5275		-1.084	0.024
	Retired	5	2.320	0.9899			
	Private Sector	47	3.425				
Curiosity and Social Acceptance	Student	276	3.775	0.8316			
	Employee	3	3.777	1.5752			
	Officer	2	2.777	1.0999			0.182
	Retired	5	2.933	1.1616			
	Private Sector	47	3.796	0.9054			
Uncertainty in Game Request	Student	276	1.060	1.060			
	Employee	3	1.553	1.553			
	Officer	2	0.848	0.848			0.944
	Retired	5	2.720	1.786			
	Private Sector	47	2.944	1.068			

Table 4 shows the findings of the ANOVA test conducted between the DGPMS results of the participants and their professions. As a result of the analysis, it was determined that the profession of the participants did not have a significant relationship with the "Uncertainty in Game Request" sub-dimension or "Curiosity and Social Acceptance" sub-dimension (p < 0.05). In addition, significant differences were found in the "Success and Recovery" results of the students and retired individuals. Accordingly, the motivation levels of the students and retired individuals in the "Success and Recovery" sub-dimension were higher than individuals in other professions (Z = -1.084; p = .00 < .05).



Table 5. Test results by monthly income level

Scale	Income Levels	N	X	SS	Sd	t	p
Success and Recovery	≤ 1500 TL	183	3.475	0.7949			
	1501-2500 TL	59	3.366	0.8454			
	2501-3500 TL	34	3.541	0.8815			0.959
	3501-4500 TL	22	3.454	0.7787			
	≥ 4501 TL	37	3.475	0.8115			
Curiosity and Social Acceptance	≤ 1500 TL	183	3.687	0.8555			
	1501-2500 TL	59	3.849	0.8893			
	2501-3500 TL	34	3.836	0.9097			0.132
	3501-4500 TL	22	3.959	0.5395			
	≥ 4501 TL	37	3.760	0.9430			
Uncertainty in Game Request	≤ 1500 TL	183	3.044	1.0085			
	1501-2500 TL	59	3.040	1.1451			
	2501-3500 TL	34	2.711	1.1818			0.433
	3501-4500 TL	22	2.727	0.9885			
	≥ 4501 TL	37	2.859	1.1943			

Table 5 shows the ANOVA test results conducted between the participants' monthly income levels and their motivation to play digital games. Accordingly, no significant relationship was found between the monthly income levels of the participants and their motivation to play digital games (p < .05).

4. Discussion and Conclusion

Online gaming is becoming more popular among young people as a result of the inevitable progress of technology. While digital games can improve young people's productivity, reflex development, and foresight abilities, they also cause some issues, particularly when considered in the context of addiction. Furthermore, digital games have recently begun to gain popularity among primary school students. It has been observed that those students' gaming habits continue even throughout their university years. To advance preventive studies in this field, it is necessary to identify the motivational factors that lead university students to play digital games during the most productive years of their lives (Özcan & Sengir, 2020).

According to the descriptive statistics, 136 women and 196 men participated in this study. Because the study included university students, 237 participants (70.7%) were between the



ages of 20 and 25. 11 participants (3.3%), however, were 45 years old and over. Since the study's area of application was Eskişehir Technical University and its students were the focus group, 289 participants (86.3%) were associate/undergraduate students and 21 (6.3%) were postgraduate students (Master's/PhD).

One of the questions posed to participants was, "How much time do you spend playing digital games per day?". 0-2 hours was the answer given by 210 people (62.7%). The least common answer was 7-9 hours, which was given by 7 people (2.1%).

Another question was "How long have you been playing digital games?". 8 years or more was the answer given by 147 people (43.9%). The least common answer was between 2-4 years, which was given by 28 people (8.4%).

As a result of the analysis, it was determined that gender had significant relationships with the "Success and Recovery" sub-dimension, and the "Curiosity and Social Acceptance" sub-dimension. Accordingly, in the "Success and Recovery" sub-dimension, male students' motivation to play digital games was higher than female students' motivation to play digital games.

Most of his days in front of the computer e-Athletes who spend playing video games the means they use to prevent health risks and materials should be evaluated ergonomically and play athletes to maintain the correct posture during should be made aware. In addition, maintaining performance and to prevent disorders due to overuse exercise prescriptions should be established and recommended weekly physical to reach the duration of participation in the activity should be encouraged. (Gümüşdağ et al., 2021).

In the study conducted by Demirel et al. (2019), a significant difference was also found in the relationship of gender with "Success and Recovery", and "Curiosity and Social Acceptance", which are sub-dimensions of motivation to play digital games. Accordingly, it was found that female students were less motivated to play digital games than male students.

Another study found that the motivation of participants to play digital games differed significantly by gender, with men being more motivated. Men's "Success and Recovery" and "Curiosity and Social Acceptance" levels were found to be higher than women's (Bozkurt & Tamer, 2020).

There was no significant relationship found between the participants' monthly income levels and their motivation to play digital games. Likewise, the effect of students' socioeconomic status on game motivation was not found to be statistically significant in (Özcan & Sengir's 2020) study. In the literature, socioeconomic status has been examined primarily in terms of access to computers and games. However, computers and internet access are now widely available, even in families with the lowest socioeconomic status.

When the motivation levels of the participants were investigated by age in this study, no significant relationship was found between the ages of the participants and their motivation to play digital games.

According to the study of Demir and Cicioğlu (2019), the age variable had no significant



relationship with the MSPPA (Motivation Scale for Participation in Physical Activity) or DGPMS. This could be because the ages of the participants were close to each other. On the other hand, the fact that the participants were reached through similar digital game chat pages can be shown as the reason why no relationship was found between their ages and DGPMS.

As a result of the analysis conducted between the DGPMS results of the participants and their education levels, it was determined that education levels did not have a significant relationship with the "Success and Recovery" sub-dimension or the "Curiosity and Social Acceptance" sub-dimension. In another study, as a result of One-Way ANOVA and Post-Hoc analysis on whether there was a significant relationship between education level and dimensions, no statistically significant relationship was found between them, either (Sepetci, 2017).

On the other hand, a significant difference was found in the "Uncertainty in Game Request" of high school and associate/undergraduate students. According to this, the levels of "Uncertainty in Game Request" of high school and associate/undergraduate students were higher than those at other educational levels.

Analyzing DGPMS sub-dimensions by occupation, significant differences were found in the "Success and Recovery" results of the students and retired individuals. Accordingly, the motivation levels of the students and retired individuals in the "Success and Recovery" sub-dimension were higher than individuals in other professions. Suggestions for Future Studies; The motivation for playing digital games by department, E-Sports Motivation, Digital Gaming Addiction, Intrinsic Reasons for Playing Digital Games.

References

Bozkurt, T. M., & Tamer, K. (2020). Body Mass Index Relationship with Digital Game Motivation. *Gaziantep University Journal of Sport Sciences*, *5*(2), 105-120.

Cihan, B. B., & Ilgar, E. A. (2019). A Phenomenological Analysis of the Effects of Digital Sports Games on Athletes. *Gaziantep University Journal of Sport Sciences*, 4(1), 171-189.

Coşgun, M. (2012). Popular Culture and Consumer Society. *Batman University Journal of Life Sciences*, *1*(1).

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in humanbehavior*. New York: Plenum. https://doi.org/10.1007/978-1-4899-2271-7

Demir, G. T., & Cicioğlu, H. İ. (2019). Investigation of the relationship between motivation to participate in physical activity and motivation to play digital games. *Spormetre Journal of Physical Education and Sport Sciences*, 17(3), 23-34.

Demir, G. T., & Hazar, Z. (2018). Digital Game Motivation Scale FAOM: Validity and Reliability Study. *Journal of Physical Education and Sport Sciences*, *12*(2), 128-139.

Demirel, H. G., Cicioğlu, H. İ., & Demir, G. T. (2019). Examination of high school students' motivation levels to play digital games. *Journal of Physical Education and Sport Sciences*, 21(3), 128-137.



Duzcan, Ş. (2020). Social Media and Religion in the Context of Popular Culture: The Example of Sözler Köşkü (Master Thesis, Marmara University, Institute of Social Sciences, İstanbul, Türkiye).

Esentaş, M., Güzel, P., & Vural, M. (2018). Digital sports as a recreational activity in popular culture. *Journal of Physical Education and Sport Sciences*, 20(1), 71-79.

Gümüşdağ, H., Aydoğan, M., & Salehian, M. H. (2021). E-Spor and Health, *Pakistan Journal of Medical Health and Sciences*, 15(4), 1438-1441.

Güvenç, B. G. (1996). The relationship between female and male university students' perceptions of family interaction and their attitudes towards gender role. *Journal of Psychiatry Psychology Psychopharmacology*, 4(1), 34-40.

Huang, Y. M., Huang, S. H., & Wu, T. T. (2014). Embedding diagnostic mechanisms in a digital game for learning mathematics. *Educational Technology Research and Development*, 62(2), 187-207. https://doi.org/10.1007/s11423-013-9315-4

Kirriemuir, J., & McFarlane, A. (2004). *Literature review in games and learning* (Futurelab Series Report, 8). University of Bristol, UK.

Kraus, R. (1971). Recreation and Leisure in Modern Society. TACC, USA.

Kroeber, A. L., & Kluckhohn, C. (1952). *Culture: A critical review of concepts and definitions*. Peabody Museum of Archaeology & Ethnology, Harvard University, USA.

Lower, J. (2008). Brace Yourself Here Comes Generation Y. *Critical Care Nurse*, 28(5), 80-85. https://doi.org/10.4037/ccn2008.28.5.80

Oktay, T. A. S., & Atac, C. G. (2002). The working capital management effect on profitability of energy companies in turkey, based on different business cycles. *Pressacademia Procedia*, 8(1), 18-23. https://doi.org/10.17261/Pressacademia.2018.973

Özbek, M. (2002). *Popular Culture and Orhan Gencebay Arabesque*. İletişim Yayınları, Ankara.

Özcan, K., & Sengir, S. (2020). An Investigation of Digital Game Playing Motivation of Students in Graphic Design Education in Terms of Various Variables. *Journal of Ondokuz Mayıs University Faculty of Education*, 39(3), 155-169.

Özkan, H. H. (2006). Popular Culture and Education. *Kastamonu Journal of Education*, 14(1).

Özsoy, S., & Sepetçi, T. (2019). Cinema Presentation of E-sports as a Popular Culture Product: The Example of the "Good Game" Movie. *International Journal of Scientific Research*, 90-98. https://doi.org/10.21733/ibad.570950

Possler, D., Kümpel, A. S., & Unkel, J. (2020). Entertainment motivations and gaming-specific gratifications as antecedents of digital game enjoyment and appreciation. *Psychology of Popular Media*, 9(4), 541. https://doi.org/10.1037/ppm0000248

Püsküllüoğlu, A. (2004). *Turkish Dictionary* (5th ed.). Doğan Kitabevi, İstanbul.



Sepetci, T. (2017). *Digital games, digital players: Counter-hegemony practices and social interaction* (PhD Thesis, Institute of Social Sciences, Department of Communication, Akdeniz University).

Turgut, M., & Yasar, O. M. (2019). Playing Digital Game Motivations of University Students. *Asian Journal of Education and Training*, *5*(4), 603-608. https://doi.org/10.20448/journal.522. 2019.54.603.608

Zou, D., Huang, Y., & Xie, H. (2019). Digital game-based vocabulary learning: Where are we and where are we going? *Computer Assisted Language Learning*, 1-27. https://doi.org/10.1080/09588221.2019.1640745

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